This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.53 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards (effective 6 January 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Fort A.P. Hill Wilcox Camp WWTP 21132 Peuman Road Bowling Green, VA 22427	SIC Code:	4952 WWTP
	Facility Location:	21132 Peuman Road Bowling Green, VA 22427	County:	Caroline
	Facility Contact Name:	Gary Manville / Utility Manager	Telephone Number:	804-380-8267
	Facility Email Address:	gmanville@amwater.com		
2.	Permit No.:	VA0032034	Expiration Date:	16 February 2015
	Other VPDES Permits:	VAN020035 – Nutrient General Permit		
	Other Permits:	Not Applicable		
	E2/E3/E4 Status:	Extraordinary Environmental Enterprise (E4) Member		
3.	Owner Name:	American Water Operations and Maintenance, Inc.		
	Owner Contact / Title:	James Sheridan / Vice President	Telephone Number:	856-359-2070
4.	Application Complete Date:	28 August 2014		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	30 September 2014
	Draft Permit Reviewed By:	Anna Westernik	Date Reviewed:	30 September 2014
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	24 October 2014
	Public Comment Period:	Start Date: 14 November 2014	End Date:	15 December 2014
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination.		
	Receiving Stream Name:	Mill Creek, UT	Stream Code:	3-XDC
	Drainage Area at Outfall:	0.92 square miles	River Mile:	1.97
	Stream Basin:	Rappahannock River	Subbasin:	None
	Section:	4	Stream Class:	III
	Special Standards:	None	Waterbody ID:	VAN-E21R
	7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
	1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
	30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
	Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- X State Water Control Law
- X Clean Water Act
- X VPDES Permit Regulation
- X EPA NPDES Regulation
- __ EPA Guidelines
- X Water Quality Standards
- X 9VAC25-820 et seq. *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia*

7. **Licensed Operator Requirements:** Class II

8. **Reliability Class:** Class II

9. **Facility / Permit Characterization:**

X	Private (located on a Federal facility)	X	Effluent Limited		Possible Interstate Effect
	Federal	X	Water Quality Limited		Compliance Schedule
	State		Whole Effluent Toxicity Program		Interim Limits in Permit
	POTW		Pretreatment Program		Interim Limits in Other Document
	eDMR Participant	X	Total Maximum Daily Load (TMDL)		

10. **Wastewater Sources and Treatment Description:**

Wastewater is generated via training camps, office operations and a regional jail; serving a population of between 300 and 5,000; depending on usage of the training facilities.

Influent passes through a bar screen prior to entering one of two unlined equalization lagoons; each equipped with five floating aerators. Flow is then pumped to a splitter box for distribution into three aeration basins. Magnesium chloride and soda ash are added for pH and alkalinity adjustment. Effluent from the aeration basins flows to the secondary clarifiers; then filtered through the three mixed media filters prior to ultraviolet disinfection. Final effluent is aerated via a step-cascade prior to entering the unnamed tributary to Mill Creek.

It should be noted that the facility is currently installing a synthetic liner to one of the lagoons. Groundwater monitoring data indicated that the current bentonite liners may have been compromised; allowing the lagoon contents to influence groundwater quality; both facility and DEQ staff were in concurrence given the data presented. Groundwater monitoring revealed that the following indicator parameters were elevated in downgradient wells: chlorides, alkalinity, ammonia, hardness, total organic carbon and total sodium. Bacteria levels were also found present in the downgradient wells. The liner installation was completed during the drafting of this Fact Sheet. That lagoon was brought back online while the other unlined lagoon will be drained and taken offline. The facility plans to eventually close out the unlined unit; meanwhile, it will be maintained as necessary until a closure date is determined.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Flow	Latitude / Longitude
001	Domestic Wastewater	See Section 10	0.53 MGD	38° 06′ 16″ / 77° 16′ 41″
See **Attachment 3** for the Bowling Green topographic map.				

11. **Sludge Treatment and Disposal Methods:**

The facility utilizes aerobic digesters and drying beds to treat the sludge generated. The primary method of disposal is the King George County Landfill. The facility also has the option to send the sludge to a contractor, Synagro Central, for blending and land application. The blending and land application operations will be covered under Synagro's land application permit.

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12. Permitted Discharges Located Within Waterbody VAN-E21R:

TABLE 2 PERMITTED DISCHARGES			
Permit Number	Facility Name	Type	Receiving Stream
VA0086789	Oakland Park Sewage Treatment Plant	Municipal Discharge Individual Permits	Muddy Creek, UT
VA0086720	Presidential Lakes Section 14 STP		Popcastle Creek
VA0089125	Haymount Wastewater Treatment Facility		Rappahannock River
VA0087645	Birchwood Power Facility	Stormwater Industrial Discharge Individual Permits	Rappahannock River
VA0088374	Crop Production Services, Inc.		Birchwood Run, UT
VAR051005	Virginia Used Truck Parts	Stormwater Industrial Discharge General Permits	Muddy Creek, UT
VAR051414	King George Landfill & Recycling Center		Birchwood Run Birchwood Run, UT
VAG406380	Hall Residence	Domestic Discharge ≤ 1,000 GPD General Permits	White Oak Run
VAG406050	Logan Apartments		White Oak Run, UT
VAG406436	Odell Residence		White Oak Run, UT
VAG840195	Aggregate Industries MAR – Hayfield Sand & Gravel	Non Metallic Mineral Mining General Permit	Rappahannock River, UT
VAG750219	Central Vehicle Wash Facility Fort AP Hill	Car Wash General Permit	Mill Creek, UT

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Sodium aluminate 38%	55 gallon drums	Containment trays

14. Site Inspection:

Performed by NRO Compliance Staff on 30 March 2010; refer to **Attachment 4** for the inspection summary.

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

This facility discharges to an unnamed tributary to Mill Creek that has not been monitored or assessed. The nearest DEQ ambient monitoring station is 3-MIC001.66 which is located on Mill Creek at Route 17; approximately 9.9 miles downstream from Outfall 001. The following is the water quality summary for this segment of Mill Creek, as taken from the 2012 Integrated Report:

Class III, Section 4.

DEQ monitoring station located in this segment of Mill Creek: DEQ ambient water quality monitoring station 3-MIC001.66, at Route 17.

Ambient monitoring finds a pH impairment, resulting in an impaired classification for the aquatic life use. The pH excursions may be attributable to natural conditions as this segment is a low-lying Coastal Plain environment with no riffles and slow moving pools that are subject to low pH.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use.

The wildlife use is considered fully supporting.

The fish consumption use was not assessed.

Please note that DEQ freshwater probabilistic monitoring station 3-MIC008.55 is also located on Mill Creek, approximately 2.9 miles downstream from Outfall 001; however, this station was sampled only once during 2004. The following is the water quality summary for this segment of Mill Creek, as taken from the 2012 Integrated Report:

Class III, Section 4.

DEQ monitoring station located in this segment of Mill Creek: DEQ freshwater probabilistic monitoring station 3-MIC008.55, on Fort A.P. Hill property

Biological monitoring indicates an impairment for the aquatic life use.

The wildlife use is considered fully supporting.

The fish consumption use is considered fully supporting based on water column metals data.

There was insufficient data to assess the recreation use.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4
RECEIVING STREAM 303(d) IMPAIRMENTS AND TMDLs

Waterbody Name	Impaired Use	Cause	TMDL Completion / Schedule	WLA	Basis for WLA
Impairment Information in the 2012 Integrated Report					
Mill Creek	Aquatic Life	Benthic Macroinvertebrates	2020	---	---
		pH	2020	---	---
	Recreation	*E. coli*	2020	---	---
Rappahannock River	Fish Consumption	PCBs	2016	---	---

This facility discharges to an unnamed tributary of Mill Creek; located within the Chesapeake Bay watershed. The receiving stream has been addressed in the Chesapeake Bay TMDL, completed by the Environmental Protection Agency (EPA) on 29 December 2010. The TMDL addresses dissolved oxygen (D.O.), chlorophyll a and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tidal tributaries by establishing non-point source load allocations (LAs) and point-source wasteload allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) to meet applicable Virginia Water Quality Standards contained in 9VAC25-260-185. This facility is considered a Significant Chesapeake Bay wastewater discharge and has been assigned wasteload allocations.

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Implementation of the Chesapeake Bay TDML is currently accomplished in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on 29 December 2010. The approved WIP recognizes that the TMDL nutrient WLAs for Significant Chesapeake Bay wastewater dischargers are set in two regulations: 1) the Water Quality Management Planning Regulation (9VAC25-720); and 2) the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia* (9VAC25-820). The WIP states that since TSS discharges from wastewater facilities represent an insignificant portion of the Bay's total sediment load, they may be considered aggregated and wastewater discharges with technology-based TSS limits are considered consistent with the TMDL.

40 CFR 122.44(d)(1)(vii)(B) requires permits to be written with effluent limits necessary to meet water quality standards and to be consistent with the assumptions and requirements of applicable WLAs. DEQ has provided coverage under the VPDES Nutrient General Permit (GP) for this facility under permit VAN020035. The requirements of the Nutrient GP currently in effect for this facility are consistent with the Chesapeake Bay TMDL. This individual permit includes TSS limits that are also consistent with the Chesapeake Bay TMDL and WIP. In addition, the individual permit addresses limitations for the protection of instream dissolved oxygen concentrations as detailed in Section 19 of this Fact Sheet. The proposed effluent limits within this individual permit are consistent with the Chesapeake Bay TMDL and will not cause an impairment or observed violation of the standards for D.O., chlorophyll a or SAV as required by 9VAC25-260-185.

The planning statement may be found in **Attachment 5**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Mill Creek, UT is located within Section 4 of the Rappahannock River Basin and has been designated as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

The Freshwater Water Quality Criteria / Wasteload Allocation Analysis located in **Attachment 6** details other water quality criteria applicable to the receiving stream. Some Water Quality Criteria are dependent on the pH, temperature and total hardness of the receiving stream and/or final effluent.

pH and Temperature for Ammonia Criteria

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream pH and temperature. Since the effluent may have an impact on the instream values, the pH and temperature values of the effluent must also be considered when determining the ammonia criteria for the receiving stream. The 90th percentile pH and temperature values are utilized because they best represent the critical conditions of the receiving stream.

The critical 30Q10 and 1Q10 flows of the receiving stream have been determined to be 0.0 MGD. In cases such as this, effluent pH and temperature data may be utilized to establish the ammonia water quality criteria. See **Attachment 7** for the derivation of the 90th percentile values of the effluent pH data from Discharge Monitoring Reports (DMRs) for March 2010 through July 2014. A default temperature value of 25° C and an assumed temperature value of 15° C for summer and winter, respectively, were utilized since effluent data was not readily available.

The ammonia water quality criteria calculations are shown in **Attachment 6**.

Hardness Dependent Metals Criteria

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent total hardness values (expressed as mg/L calcium carbonate).

There is no hardness data for this facility or the receiving stream. Staff guidance suggests utilizing a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge. The hardness dependent metals criteria in **Attachment 6** are based on this default value.

Bacteria Criteria

The Virginia Water Quality Standards at 9VAC25-260-170A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 mL)	126

[1]For a minimum of four weekly samples taken during any calendar month

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Mill Creek, UT, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

It is staff's best professional judgement that the receiving stream be classified as Tier 1 based on the following: (1) the stream critical flows have been determined to be zero; (2) at times the stream flow may be comprised of only effluent; and (3) the noted downstream impairments in **Attachment 5**.

The proposed permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical 7Q10, 1Q10 and 30Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration value is greater than the chronic WLA. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the March 2010 – July 2014 Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation.

Please refer to **Attachment 7** for a summary of effluent data.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 has been determined to have critical 7Q10, 1Q10 and 30Q10 flows of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/TKN

Staff utilized effluent pH and default/assumed temperature values to determine the ammonia water quality criteria, wasteload allocations (WLAs) and subsequent ammonia limits (**Attachment 8**). DEQ guidance suggests using a sole data point of 9.0 mg/L to ensure the evaluation adequately addresses the potential for the presence of ammonia in a discharge containing treated domestic sewage.

The toxicity of ammonia is dependent on the pH of the effluent and/or receiving stream. Ammonia can exist as both "ionized ammonia" (NH_4) and "un-ionized ammonia" (NH_3). Research has shown that the un-ionized ammonia is the fraction that is toxic to aquatic life while the ionized ammonia has been found to have little or no toxic effect. Furthermore, it has been demonstrated that the un-ionized fraction increases correspondingly with rising pH values; thus, increasing potential toxicity and the basis for the above calculated ammonia limits.

It is generally accepted that total Kjeldahl nitrogen (TKN) consists of approximately 60% ammonia in raw wastewater. As the waste stream is treated, the ammonia component of TKN is converted to nitrate (NO_3) and nitrite (NO_2). It is estimated that a facility achieving a TKN limit of 3.0 mg/L essentially removes ammonia from the waste stream, resulting in a 'self-sustaining' quality effluent that protects against ammonia toxicity.

It is staff's best professional judgement that the current TKN monthly average limit of 3.0 mg/L is more protective than the calculated ammonia limitations above and will be carried forward in this reissuance. The weekly average limit will be 4.5 mg/L based on a multiplier of 1.5 times the monthly average.

Note: The Environmental Protection Agency (EPA) finalized new, more stringent ammonia criteria in August 2013; possibly resulting in significant reductions in ammonia effluent limitations. It is staff's best professional judgement that incorporation of these criteria into the Virginia Water Quality Standards is forthcoming. Several facilities may be required to comply with these new criteria during their next respective permit terms. Implications, if any, in regards to the above TKN assumptions are not known at this time.

2) Total Residual Chlorine (TRC)

Chlorine is not utilized for disinfection at this facility and is not expected to be present in the discharge; therefore, limitation derivations are not warranted.

3) Metals/Organics

It is staff's best professional judgement that given the wastewater sources; limitations are not warranted at this time.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), carbonaceous-biochemical oxygen demand-5 day ($cBOD_5$), total suspended solids (TSS), total Kjeldahl nitrogen (TKN) and pH limitations are proposed.

$cBOD_5$, TSS and TKN limitations are based on best professional judgment and the current VPDES Permit Manual. This is applicable to waters such as this portion of Mill Creek, UT, where the critical flows have been determined to be zero. The proposed limitations are considered 'self-sustaining' and will not normally violate the stream standard even if the stream consists of 100% effluent.

It is staff's practice to equate the total suspended solids limits with the $cBOD_5$ limits since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9VAC25-260-170.

e. Effluent Annual Average Limitations and Monitoring, Outfall 001 – Nutrients

VPDES Regulation 9VAC25-31-220(D) requires effluent limitations that are protective of both the numerical and narrative water quality standards for state waters, including the Chesapeake Bay.

As discussed in Section 15, significant portions of the Chesapeake Bay and its tributaries are listed as impaired with nutrient enrichment cited as one of the primary causes. Virginia has committed to protecting and restoring the Bay and its tributaries. Only concentration limits are now found in the individual VPDES permit when the facility installs nutrient removal technology. The basis for the concentration limits is 9VAC25-40 – *Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed* which requires new or expanding discharges with design flows of $\geq$ 0.04 MGD to treat for TN and TP to either BNR (Biological Nutrient Removal) levels (TN = 8 mg/L; TP = 1.0 mg/L) or SOA (State of the Art) levels (TN = 3.0 mg/L and TP = 0.3 mg/L).

This facility has also obtained coverage under 9VAC25-820 – *General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia.* This regulation specifies and controls the nitrogen and phosphorus loadings from facilities and specifies facilities that must register under the general permit. Nutrient loadings for those facilities registered under the general permit as well as compliance schedules and other permit requirements, shall be authorized, monitored, limited and otherwise regulated under the general permit and not this individual permit. This facility has coverage under this General Permit; the permit number is VAN020035. Total Nitrogen Annual Loads and Total Phosphorus Annual Loads from this facility are found in 9VAC25-720 – *Water Quality Management Plan Regulation* which sets forth TN and TP maximum wasteload allocations for facilities designated as significant discharges, i.e. those with design flows of $\geq$ 0.5 MGD above the fall line and > 0.1 MGD below the fall line.

Monitoring for nitrates + nitrites, total nitrogen and total phosphorus are included in this permit. The monitoring is needed to protect the Chesapeake Bay Water Quality Standards. Monitoring frequencies reflect those as set forth in 9VAC25-820. Annual average effluent limitations, as well as monthly and year to date calculations, for total nitrogen and total phosphorus are included in this individual permit. The annual averages are based on 9VAC25-720 and Guidance Memo 07-2008.

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9VAC25-40-70.A. states that the board shall include technology-based effluent concentration limitations in the individual permit for any facility that has installed technology for the control of nitrogen and phosphorus whether by new construction, expansion or upgrade. TN and TP annual average concentration limits are based on the technology installed and become effective on January 1st following issuance of a CTO for the nutrient removal equipment.

To date, the Wilcox WWTP has not installed nutrient removal technology. Therefore, the facility shall monitor and report TN and TP concentrations with this reissuance until such time technology is installed. Nutrient loadings shall be governed under the aforementioned General Permit.

The monthly average total phosphorus limit of 2.0 mg/L is based upon site specific water quality conditions which the General Permit does not supersede. It is staff's best professional judgment that this limit remain even though the facility will still monitor and report total phosphorus under the General Permit VAN020035. It is staff's experience that sewage treatment plant discharges without phosphorus controls will cause algal blooms in ponds, small impoundments and still waters in general. Since there is no model or chlorophyll criteria by which to derive a phosphorus limit, staff use their experience with facilities that must comply with the 2.0 mg/L requirements of the Nutrient Policy and require the same limit. This limit has been shown to provide sufficient control on phosphorus to avoid nuisance algal blooms.

The regulatory basis for this approach is 9VAC25-31-220.D.

f. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in Section 19. Limits were established for carbonaceous-biochemical oxygen demand-5 day ($cBOD_5$), total suspended solids (TSS), total Kjeldahl nitrogen (TKN), pH, dissolved oxygen (D.O.), total phosphorus and *E. coli*. Monitoring requirements were established for flow, nitrate+nitrite and total nitrogen.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

The mass loading (lb/d) for TKN and total phosphorus monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 8.345.

Sample type and frequency are in accordance with the recommendations in the VPDES Permit Manual and the monitoring requirements in 9VAC25-820-70.E.1, *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia.*

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD/cBOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water quality-based effluent limits and result in greater than 85% removal.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

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19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.53 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until issuance of a CTO for installed nutrient removal equipment or the expiration date, whichever may occur first.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	Continuous	TIRE
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$cBOD_5$	2,3	10 mg/L 20 kg/day	15 mg/L 30 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids (TSS)	2,6	10 mg/L 20 kg/day	15 mg/L 30 kg/day	NA	NA	3D/W	8H-C
Dissolved Oxygen (DO)	3	NA	NA	6.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	2,3	3.0 mg/L 13 lb/day	4.5 mg/L 20 lb/day	NA	NA	3D/W	8H-C
E. coli (Geometric Mean) [a.]	3	126 n/100mL	NA	NA	NA	3D/W	Grab
Nitrate+Nitrite, as N	3,4	NL mg/L	NA	NA	NA	2/M	8H-C
Total Nitrogen [b.]	3,4	NL mg/L	NA	NA	NA	2/M	Calculated
Total Nitrogen – Year to Date [c.]	3,4	NL mg/L	NA	NA	NA	1/M	Calculated
Total Nitrogen – Calendar Year [c.]	3,4,5,6	NL mg/L	NA	NA	NA	1/Y	Calculated
Total Phosphorus	3	2.0 mg/L 8.8 lb/day	NA	NA	NA	2/M	8H-C
Total Phosphorus – Year to Date [c.]	3,4	NL mg/L	NA	NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year [c.]	3,4,5,6	NL mg/L	NA	NA	NA	1/Y	Calculated

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9VAC25-40 (Nutrient Regulation)
5. 9VAC25-720 (WQMP Regulation)
6. Chesapeake Bay TMDL/WIP

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
TIRE = Totalizing, indicating and recording equipment.

1/D = Once every day.
3D/W = Three days a week.
2/M = Twice every month.
1/M = Once every month.
1/Y = Once every calendar year.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15 minutes.

a. Samples shall be collected between 10:00 a.m. and 4:00 p.m.

b. Total Nitrogen = Sum of TKN plus Nitrate+Nitrite

c. See Section 20 for more information on the Nutrient Calculations.

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20. Other Permit Requirements:

Part I.B. of the permit contains quantification levels and compliance reporting instructions

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

The calculations for the nitrogen and phosphorus parameters shall be in accordance with the calculations set forth in 9VAC25-820 – *General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia.* §62.1-44.19:13 of the Code of Virginia defines how annual nutrient loads are to be calculated; this is carried forward in 9VAC25-820-70. As annual concentrations (as opposed to loads) are limited in the individual permit, these reporting calculations are intended to reconcile the reporting calculations between the permit programs, as the permittee is collecting a single set of samples for the purpose of ascertaining compliance with two permits.

21. Other Special Conditions:

a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4 requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a PVOTW.

b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200.B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct (CTC) prior to commencing construction and to obtain a Certificate to Operate (CTO) prior to commencing operation of the treatment works.

e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and by the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class II operator.

f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet reliability Class II.

g. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220.D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

h. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

i. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2, and 420 through 720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

j. E3/E4. 9VAC25-40-70.B. authorizes DEQ to approve an alternate compliance method to the technology-based effluent concentration limitations as required by subsection A of this section. Such alternate compliance method shall be incorporated into the permit of an Exemplary Environmental Enterprise (E3) facility or an Extraordinary Environmental Enterprise (E4) facility to allow the suspension of applicable technology-based effluent concentration limitations during the period the E3 or E4 facility has a fully implemented environmental management system that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.

k. Nutrient Reopener. 9VAC25-40-70.A. authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9VAC25-31-390.A. authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

l. Ground Water Monitoring. Required by 9VAC25-280-20. Except where otherwise specified, groundwater quality standards shall apply statewide and shall apply to all groundwater occurring at and below the uppermost seasonal limits of the water table. In order to prevent the entry of pollutants into groundwater occurring in any aquifer, a soil zone or alternate protective measure or device sufficient to preserve and protect present and anticipated uses of groundwater shall be maintained at all times. 9VAC25-280-60 Groundwater criteria, although not mandatory, also provide guidance in preventing groundwater pollution. Also, State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determinate the discharge's impact on State waters. Groundwater monitoring for parameters of concern will indicate whether possible lagoon/pond seepage is resulting in violations to the State Water Control Board's Ground Water Standards.

The permittee shall continue groundwater monitoring associated with the two (2) 1.5 million gallon flow equalization basins in accordance with the approved (10 November 1994) groundwater monitoring plan. Annual monitoring reports shall be submitted on or before February 10th of each year for the preceding calendar year. Following completion of the installation of the lagoon synthetic liners, the groundwater monitoring results will be re-evaluated during the next permit reissuance to determine if possible impacts have been eliminated and continued monitoring needs.

m. Total Maximum Daily Load (TMDL) Reopener. Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

22. Permit Section Part II.

Required by VPDES Regulation 9VAC25-31-190, Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- No additions or deletions during this reissuance.

b. Monitoring and Effluent Limitations:

- No changes noted during this reissuance.

c. Other:

- River mile was updated with this reissuance per the Planning Statement located in **Attachment 5.**

24. Variances/Alternate Limits or Conditions:

Not applicable.

25. Public Notice Information:

First Public Notice Date: 13 November 2014 Second Public Notice Date: 20 November 2014

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. 703-583-3873, Douglas.Frasier@deq.virginia.gov. See **Attachment 9** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. Additional Comments:

Previous Board Action(s):	Not Applicable
Staff Comments:	No comments were received.
State/Federal Agency Comments:	No comments were received during this reissuance.
Public Comments:	No comments were received during the public notice.
Owner Comments:	Utility Manager clarified plans regarding lagoon lining plans; eventually closing out the unlined lagoon. Section 10 of this Fact Sheet was revised to reflect future plans at this facility.

Fact Sheet Attachments

Table of Contents

Fort A.P. Hill Wilcox Camp Wastewater Treatment Plant
VA0032034
2015 Reissuance

ATTACHMENT 1

Flow Frequency Determination

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
A.P. Hill, Wilcox Camp Site – #VA0032034

TO: April Young, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: January 7, 1999

COPIES: Ron Gregory, Charles Martin, File

The A.P. Hill – Wilcox Camp Site discharges to an unnamed tributary of the Mill Creek near Port Royal, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the discharge receiving stream were determined by inspection of the USGS Bowling Green Quadrangle topographic map. The map depicts the stream as intermittent. The flow frequencies for intermittent streams are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean. The drainage area above the discharge point is 0.61 mi^2.

If you have any questions concerning this analysis, please let me know.

Attachment 1

ATTACHMENT 2

Facility Schematic/Diagram

VPDES SEWAGE SLUDGE PERMIT APPLICATION

LINE DRAWING; VA0032034

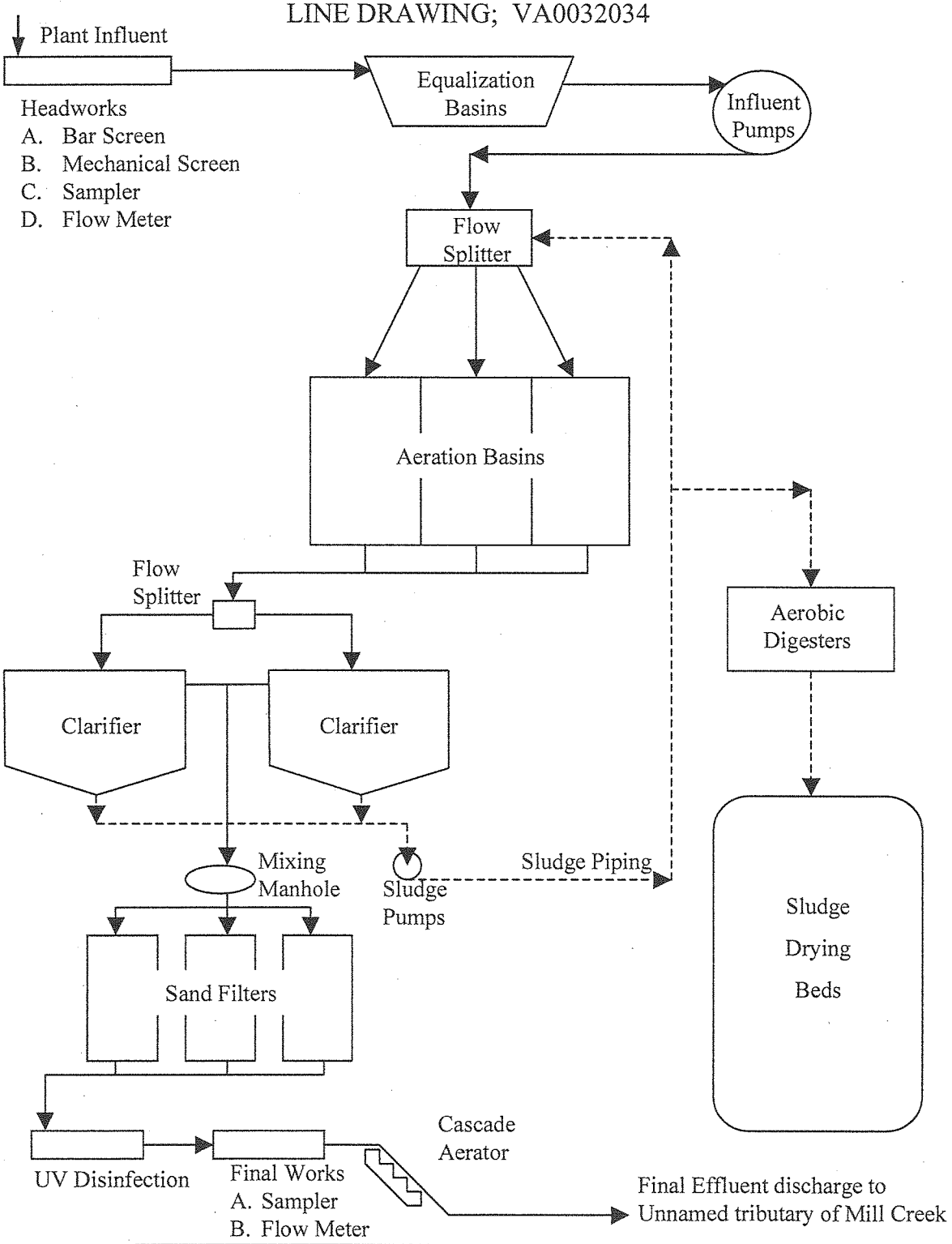

FIGURE 4				VPDES Permit Re-application Fort A.P. Hill
Wilcox WWTP Schematic				Bowling Green, Virginia
Date: May 28, 2004				
Drawn by: DMG	Checked by: GM	Reviewed by: GM	Approved by: GM	Fort A. P. Hill, Wilcox WWTP VPDES Permit #, VA0032034 Environmental & Natural Resources Div.
Scale: 1" = 2,000'				

ATTACHMENT 3

Topographic Map


Taylors Corner
RAPPAHANNOCK ACADEMY
Howards Corner
Observation Towers
Observation Tower
Delos
Hicks Mill
Observation Tower
MILITARY RESERVATION
DELORME
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www.delorme.com

ATTACHMENT 4

Inspection Summary

Problems identified at last inspection (Dec 21, 2006):

1. **None**

SUMMARY

Comments:

- **Fort AP Hill is a training facility with a variable population.**
- **Ownership & Operation of the STP was transferred from the US Army to American Water in 2007.**
- **The staff is commended on the amount of maintenance work that has been conducted:**
  - **Staff has been repairing and/or replacing older operational equipment, including the blowers, chemical feed lines, and influent pump station pumps.**
  - **The pipes around the aeration basins have recently been repainted.**
- **Staffing levels at the facility do not appear to meet the Virginia Sewerage Collection and Treatment (SCAT) regulations recommendations. For a Class II reliability Treatment Works >0.5 MGD but ≤ 2.5 MGD (utilizing biological treatment methods), the recommended attendance by a licensed operator is 8 hrs per day, and the recommended daily hours that the Works should be manned is 16 hrs per day (9 VAC 25-790 1/1/2008, Page 28 of 173).**

Recommendations for action:

- **The O&M Manual on file at DEQ's NRO was received in April 1992. The VPDES permit was reissued in February 2010. A letter stating that the O&M Manual is up to date or, alternatively, a revised O&M manual is due to DEQ's NRO on or before May 17, 2010. A cursory review of the manual indicates that an update is necessary.**
- **The inside banks of the EQ ponds are lined with stone and brushy vegetation has grown up between the individual rocks. While maintenance on this area may be difficult, brush should be kept cut down as much as safety allows in order to discourage colonization by burrowing animals.**

ATTACHMENT 5

Planning Statement

To:	Douglas Frasier
From:	Rebecca Shoemaker
Date:	30 September 2014
Subject:	Planning Statement for Fort AP Hill Wilcox Camp WWTP
Permit Number:	VA0032034

Information for Outfall 001:

Discharge Type:	minor municipal
Discharge Flow:	0.53 MGD
Receiving Stream:	Mill Creek, UT
Latitude / Longitude:	38° 06' 16" / -77° 16' 41"
Rivermile:	1.97
Streamcode:	3-XDC
Waterbody:	VAN-E21R
Water Quality Standards:	Class III, Section 4, No Special Standards
Drainage Area:	0.92 square miles

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   This facility discharges to an unnamed tributary to Mill Creek that has not been monitored or assessed. The nearest DEQ ambient monitoring station is 3-MIC001.66, which is located on Mill Creek at Route 17, approximately 9.9 miles downstream from Outfall 001. The following is the water quality summary for this segment of Mill Creek, as taken from the 2012 Integrated Report:

   Class III, Section 4.

   DEQ monitoring station located in this segment of Mill Creek:
   - *DEQ ambient water quality monitoring station 3-MIC001.66, at Route 17.*

   Ambient monitoring finds a pH impairment, resulting in an impaired classification for the aquatic life use. The pH excursions may be attributable to natural conditions as this segment is a low-lying Coastal Plain environment with no riffles and slow moving pools that are subject to low pH.

   E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The wildlife use is considered fully supporting. The fish consumption use was not assessed.

   Please note that DEQ freshwater probabilistic monitoring station 3-MIC008.55 is also located on Mill Creek, approximately 2.9 miles downstream from Outfall 001; however, this station was sampled only once (during 2004). The following is the water quality summary for this segment of Mill Creek, as taken from the 2012 Integrated Report:

Class III, Section 4.

DEQ monitoring station located in this segment of Mill Creek:

- *DEQ freshwater probabilistic monitoring station 3-MIC008.55, on Fort A.P. Hill property*

Biological monitoring indicates an impairment for the aquatic life use. The wildlife use is considered fully supporting. The fish consumption use is considered fully supporting based on water column metals data. There was insufficient data to assess the recreation use.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

   No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the 2012 Integrated Report							
Mill Creek	Aquatic Life	Benthic Macroinvertebrates	1.97	---	---	---	2020
		pH	5.56				2020
	Recreation	*E. coli*	5.56	---	---	---	2020
Rappahannock River	Fish Consumption	PCBs	11.55	---	---	---	2016

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

   DEQ planning staff requests the facility continue nutrient monitoring, specifically total phosphorus, nitrate, nitrite, ammonia, and TKN. Nutrient monitoring is requested of facilities that are located within a five mile distance upstream of a benthic impairment.

   The tidal Rappahannock River, which is located approximately 11.55 miles downstream of this facility, is listed with a PCB impairment. In support for the PCB TMDL that is scheduled for development by 2016 for the tidal Rappahannock River, this facility is a candidate for low-level PCB monitoring, based upon its designation as a minor municipal discharger. Low-level PCB analysis uses EPA Method 1668, which is capable of detecting low-level concentrations for all 209 PCB congeners. DEQ staff has concluded that low-level PCB monitoring is not warranted for this facility as this facility is not expected to be a source of or discharge PCBs. Based upon this information, this facility will not be requested to monitor for low-level PCBs.

   There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

   There are no public water supply intakes located within five miles of this discharge.

ATTACHMENT 6

Water Quality Criteria / Wasteload Allocation Analysis

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Fort AP Hill Wilcox Camp Permit No.: VA0032034

Receiving Stream: Mill Creek, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information

Annual - 1Q10 Mix =		%
- 7Q10 Mix =		%
- 30Q10 Mix =		%
Wet Season - 1Q10 Mix =		%
- 30Q10 Mix =		%

Effluent Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.8	SU
10% Maximum pH =	6.8	SU
Discharge Flow =	0.53	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	**9.9E+02**
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	**9.3E+00**
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	**2.5E+00**
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	**3.0E+00**	--	na	**5.0E-04**
Ammonia-N (mg/l) (Yearly)	0	1.21E+01	1.62E+00	na	--	1.21E+01	1.62E+00	na	--	--	--	--	--	--	--	--	--	**1.21E+01**	**1.62E+00**	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.09E+00	na	--	1.21E+01	3.09E+00	na	--	--	--	--	--	--	--	--	--	**1.21E+01**	**3.09E+00**	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	**4.0E+04**
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	**6.4E+02**
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	**3.4E+02**	**1.5E+02**	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	**5.1E+02**
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	**2.0E-03**
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	**5.3E+00**
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	**6.5E+04**
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	**2.2E+01**
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	**1.4E+03**
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	**1.9E+03**
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	**1.8E+00**	**6.6E-01**	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	**1.6E+01**
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	**2.4E+00**	**4.3E-03**	na	**8.1E-03**
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	**8.6E+05**	**2.3E+05**	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.9E+01**	**1.1E+01**	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	**1.6E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	**2.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	**1.4E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	**5.3E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	**1.0E-02**	na	--
Heptachlor [c]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**7.9E-04**
Heptachlor Epoxide[c]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**3.9E-04**
Hexachlorobenzene[c]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	**2.9E-03**
Hexachlorobutadiene[c]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	**1.8E+02**
Hexachlorocyclohexane Alpha-BHC[c]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	**4.9E-02**
Hexachlorocyclohexane Beta-BHC[c]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	**1.7E-01**
Hexachlorocyclohexane Gamma-BHC[c] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	**9.5E-01**	--	na	**1.8E+00**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	**1.1E+03**
Hexachloroethane[c]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	**3.3E+01**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	**2.0E+00**	na	--
Indeno (1,2,3-cd) pyrene [c]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[c]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	**9.6E+03**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	**4.9E+01**	**5.6E+00**	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	**1.0E-01**	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	- -	- -	1.4E+00	7.7E-01	- -	- -	--	--	--	--	--	--	--	--	**1.4E+00**	**7.7E-01**	- -	- -
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	**1.5E+03**
Methylene Chloride [c]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	**5.9E+03**
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	**3.0E-02**	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	**1.0E+02**	**1.1E+01**	na	**4.6E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	**6.9E+02**
N-Nitrosodimethylamine[c]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	**3.0E+01**
N-Nitrosodiphenylamine[c]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	**6.0E+01**
N-Nitrosodi-n-propylamine[c]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	**5.1E+00**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	**2.8E+01**	**6.6E+00**	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	**6.5E-02**	**1.3E-02**	na	--
PCB Total[c]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	**1.4E-02**	na	**6.4E-04**
Pentachlorophenol [c]	0	7.1E+00	5.5E+00	na	3.0E+01	7.1E+00	5.5E+00	na	3.0E+01	--	--	--	--	--	--	--	--	**7.1E+00**	**5.5E+00**	na	**3.0E+01**
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	**8.6E+06**
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	**4.0E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	**na**	**4.0E+00**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[c]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[c]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [c]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[c]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [c]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [c]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[c]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

ATTACHMENT 7

March 2010 – July 2014 Effluent Data

DMR QA/QC

Permit #:VA0032034

Facility:US Army - Fort A P Hill - Wilcox Camp

Due	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
10-Apr-2010	CBOD5	0.48	20	0.69	30	NULL	*********	0.87	10	<QL	15
10-May-2010	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Jun-2010	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Jul-2010	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Aug-2010	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Sep-2010	CBOD5	1	20	1	30	NULL	*********	1	10	2	15
10-Oct-2010	CBOD5	0	20	1	30	NULL	*********	1	10	2	15
10-Nov-2010	CBOD5	0	20	1	30	NULL	*********	0	10	0	15
10-Dec-2010	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Jan-2011	CBOD5	0.3	20	2.2	30	NULL	*********	2.6	10	4	15
10-Feb-2011	CBOD5	0.6	20	4.3	30	NULL	*********	3	10	6	15
10-Mar-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Apr-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-May-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Jun-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Jul-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	1	15
10-Aug-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Sep-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Oct-2011	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Nov-2011	CBOD5	1.1	20	3.8	30	NULL	*********	4.2	10	10.8	15
10-Dec-2011	CBOD5	<QL	20	1.9	30	NULL	*********	<QL	10	3	15
10-Jan-2012	CBOD5	<QL	20	2.3	30	NULL	*********	3.2	10	4.6	15
10-Feb-2012	CBOD5	0.51	20	0.98	30	NULL	*********	2.4	10	3.7	15
10-Mar-2012	CBOD5	0.41	20	1.27	30	NULL	*********	2.9	10	3	15
10-Apr-2012	CBOD5	0.79	20	2.77	30	NULL	*********	2.9	10	3.7	15
10-May-2012	CBOD5	0.49	20	1.04	30	NULL	*********	2.1	10	2.3	15
10-Jun-2012	CBOD5	0.37	20	1	30	NULL	*********	2.2	10	3	15
10-Jul-2012	CBOD5	0.6	20	1.26	30	NULL	*********	2.1	10	2.3	15
10-Aug-2012	CBOD5	0.75	20	1.93	30	NULL	*********	2.1	10	2.3	15
10-Sep-2012	CBOD5	0.43	20	0.96	30	NULL	*********	2.1	10	2.3	15
10-Oct-2012	CBOD5	0.49	20	0.67	30	NULL	*********	2	10	2	15
10-Nov-2012	CBOD5	0.58	20	1.65	30	NULL	*********	2	10	2	15
10-Dec-2012	CBOD5	0.33	20	0.47	30	NULL	*********	2	10	2	15
10-Jan-2013	CBOD5	<QL	20	<QL	30	NULL	*********	<2.0	10	<2.0	15
10-Feb-2013	CBOD5	0.07	20	1.03	30	NULL	*********	0.2	10	<2.0	15
10-Mar-2013	CBOD5	<QL	20	<QL	30	NULL	*********	<QL	10	<QL	15
10-Apr-2013	CBOD5	0.21	20	1.15	30	NULL	*********	0.6	10	1	15

10-May-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Jun-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Jul-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Aug-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Sep-2013	CBOD5	0.09	20	0.79	30	NULL	**********	0.4	10	1.3	15
10-Oct-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Nov-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Dec-2013	CBOD5	<QL	20	<QL	30	NULL	**********	<QL	10	<QL	15
10-Jan-2014	CBOD5	0.13	20	0.64	30	NULL	**********	0.7	10	2.7	15
10-Feb-2014	CBOD5	0.04	20	0.6	30	NULL	**********	0.2	10	1	15
10-Mar-2014	CBOD5	0.72	20	1.29	30	NULL	**********	3.3	10	6	15
10-Apr-2014	CBOD5	0.08	20	0.57	30	NULL	**********	0.4	10	1.7	15
10-May-2014	CBOD5	0.29	20	4.09	30	NULL	**********	1.3	10	6	15
10-Jun-2014	CBOD5	0.16	20	0.76	30	NULL	**********	0.6	10	1.3	15
10-Jul-2014	CBOD5	1.35	20	12.6	30	NULL	**********	3.6	10	12.3	15
10-Aug-2014	CBOD5	0.03	20	0.45	30	NULL	**********	0.3	10	1.3	15
10-Apr-2010	DO	NULL	**********	NULL	**********	9.1	6	NULL	**********	NULL	**********
10-May-2010	DO	NULL	**********	NULL	**********	8.2	6	NULL	**********	NULL	**********
10-Jun-2010	DO	NULL	**********	NULL	**********	6.34	6	NULL	**********	NULL	**********
10-Jul-2010	DO	NULL	**********	NULL	**********	6	6	NULL	**********	NULL	**********
10-Aug-2010	DO	NULL	**********	NULL	**********	6.1	6	NULL	**********	NULL	**********
10-Sep-2010	DO	NULL	**********	NULL	**********	7	6	NULL	**********	NULL	**********
10-Oct-2010	DO	NULL	**********	NULL	**********	7	6	NULL	**********	NULL	**********
10-Nov-2010	DO	NULL	**********	NULL	**********	7	6	NULL	**********	NULL	**********
10-Dec-2010	DO	NULL	**********	NULL	**********	6.81	6	NULL	**********	NULL	**********
10-Jan-2011	DO	NULL	**********	NULL	**********	7	6	NULL	**********	NULL	**********
10-Feb-2011	DO	NULL	**********	NULL	**********	7	6	NULL	**********	NULL	**********
10-Mar-2011	DO	NULL	**********	NULL	**********	7.2	6	NULL	**********	NULL	**********
10-Apr-2011	DO	NULL	**********	NULL	**********	7.1	6	NULL	**********	NULL	**********
10-May-2011	DO	NULL	**********	NULL	**********	7.3	6	NULL	**********	NULL	**********
10-Jun-2011	DO	NULL	**********	NULL	**********	6.97	6	NULL	**********	NULL	**********
10-Jul-2011	DO	NULL	**********	NULL	**********	6.4	6	NULL	**********	NULL	**********
10-Aug-2011	DO	NULL	**********	NULL	**********	6.3	6	NULL	**********	NULL	**********
10-Sep-2011	DO	NULL	**********	NULL	**********	6.8	6	NULL	**********	NULL	**********
10-Oct-2011	DO	NULL	**********	NULL	**********	6.5	6	NULL	**********	NULL	**********
10-Nov-2011	DO	NULL	**********	NULL	**********	7.4	6	NULL	**********	NULL	**********
10-Dec-2011	DO	NULL	**********	NULL	**********	7.2	6	NULL	**********	NULL	**********
10-Jan-2012	DO	NULL	**********	NULL	**********	7.19	6	NULL	**********	NULL	**********
10-Feb-2012	DO	NULL	**********	NULL	**********	7.2	6	NULL	**********	NULL	**********
10-Mar-2012	DO	NULL	**********	NULL	**********	7.1	6	NULL	**********	NULL	**********
10-Apr-2012	DO	NULL	**********	NULL	**********	7.3	6	NULL	**********	NULL	**********
10-May-2012	DO	NULL	**********	NULL	**********	7.1	6	NULL	**********	NULL	**********
10-Jun-2012	DO	NULL	**********	NULL	**********	7.2	6	NULL	**********	NULL	**********

10-Jul-2012	DO	NULL	*********	NULL	*********	7.1	6	NULL	*********	NULL	*********
10-Aug-2012	DO	NULL	*********	NULL	*********	7.1	6	NULL	*********	NULL	*********
10-Sep-2012	DO	NULL	*********	NULL	*********	7.2	6	NULL	*********	NULL	*********
10-Oct-2012	DO	NULL	*********	NULL	*********	7.4	6	NULL	*********	NULL	*********
10-Nov-2012	DO	NULL	*********	NULL	*********	7.8	6	NULL	*********	NULL	*********
10-Dec-2012	DO	NULL	*********	NULL	*********	7	6	NULL	*********	NULL	*********
10-Jan-2013	DO	NULL	*********	NULL	*********	7.2	6	NULL	*********	NULL	*********
10-Feb-2013	DO	NULL	*********	NULL	*********	7	6	NULL	*********	NULL	*********
10-Mar-2013	DO	NULL	*********	NULL	*********	7.3	6	NULL	*********	NULL	*********
10-Apr-2013	DO	NULL	*********	NULL	*********	7.5	6	NULL	*********	NULL	*********
10-May-2013	DO	NULL	*********	NULL	*********	7.2	6	NULL	*********	NULL	*********
10-Jun-2013	DO	NULL	*********	NULL	*********	7.7	6	NULL	*********	NULL	*********
10-Jul-2013	DO	NULL	*********	NULL	*********	7.7	6	NULL	*********	NULL	*********
10-Aug-2013	DO	NULL	*********	NULL	*********	7.4	6	NULL	*********	NULL	*********
10-Sep-2013	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-Oct-2013	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-Nov-2013	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-Dec-2013	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-Jan-2014	DO	NULL	*********	NULL	*********	7.5	6	NULL	*********	NULL	*********
10-Feb-2014	DO	NULL	*********	NULL	*********	7.5	6	NULL	*********	NULL	*********
10-Mar-2014	DO	NULL	*********	NULL	*********	7.5	6	NULL	*********	NULL	*********
10-Apr-2014	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-May-2014	DO	NULL	*********	NULL	*********	7.5	6	NULL	*********	NULL	*********
10-Jun-2014	DO	NULL	*********	NULL	*********	7.6	6	NULL	*********	NULL	*********
10-Jul-2014	DO	NULL	*********	NULL	*********	6.3	6	NULL	*********	NULL	*********
10-Aug-2014	DO	NULL	*********	NULL	*********	6.2	6	NULL	*********	NULL	*********
10-Apr-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<1.20	126	NULL	*********
10-May-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<1.20	126	NULL	*********
10-Jun-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<1.21	126	NULL	*********
10-Jul-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<1.30	126	NULL	*********
10-Aug-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<1.3	126	NULL	*********
10-Sep-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<3.79	126	NULL	*********
10-Oct-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<2.61	126	NULL	*********
10-Nov-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<4.6	126	NULL	*********
10-Dec-2010	E.COLI	NULL	*********	NULL	*********	NULL	*********	<QL	126	NULL	*********
10-Jan-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.2	126	NULL	*********
10-Feb-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	4.4	126	NULL	*********
10-Mar-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.4	126	NULL	*********
10-Apr-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.1	126	NULL	*********
10-May-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.28	126	NULL	*********
10-Jun-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.19	126	NULL	*********
10-Jul-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	4.4	126	NULL	*********
10-Aug-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.04	126	NULL	*********

10-Sep-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.16	126	NULL	*********
10-Oct-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	3	126	NULL	*********
10-Nov-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.3	126	NULL	*********
10-Dec-2011	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.6	126	NULL	*********
10-Jan-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.3	126	NULL	*********
10-Feb-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.3	126	NULL	*********
10-Mar-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.8	126	NULL	*********
10-Apr-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.1	126	NULL	*********
10-May-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.5	126	NULL	*********
10-Jun-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.3	126	NULL	*********
10-Jul-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.1	126	NULL	*********
10-Aug-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.7	126	NULL	*********
10-Sep-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.3	126	NULL	*********
10-Oct-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1	126	NULL	*********
10-Nov-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.6	126	NULL	*********
10-Dec-2012	E.COLI	NULL	*********	NULL	*********	NULL	*********	2	126	NULL	*********
10-Jan-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.6	126	NULL	*********
10-Feb-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.5	126	NULL	*********
10-Mar-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1	126	NULL	*********
10-Apr-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.1	126	NULL	*********
10-May-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	4.5	126	NULL	*********
10-Jun-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1	126	NULL	*********
10-Jul-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.2	126	NULL	*********
10-Aug-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.6	126	NULL	*********
10-Sep-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.4	126	NULL	*********
10-Oct-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.8	126	NULL	*********
10-Nov-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.8	126	NULL	*********
10-Dec-2013	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.3	126	NULL	*********
10-Jan-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	5.9	126	NULL	*********
10-Feb-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.5	126	NULL	*********
10-Mar-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.6	126	NULL	*********
10-Apr-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	9.5	126	NULL	*********
10-May-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	3.1	126	NULL	*********
10-Jun-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	2.4	126	NULL	*********
10-Jul-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.9	126	NULL	*********
10-Aug-2014	E.COLI	NULL	*********	NULL	*********	NULL	*********	1.2	126	NULL	*********
10-Apr-2010	FLOW	0.1	0.53	0.19	NL	NULL	*********	NULL	*********	NULL	*********
10-May-2010	FLOW	0.24	0.53	0.56	NL	NULL	*********	NULL	*********	NULL	*********
10-Jun-2010	FLOW	0.19	0.53	0.4	NL	NULL	*********	NULL	*********	NULL	*********
10-Jul-2010	FLOW	0.09	0.53	0.21	NL	NULL	*********	NULL	*********	NULL	*********
10-Aug-2010	FLOW	0.093	0.53	0.12	NL	NULL	*********	NULL	*********	NULL	*********
10-Sep-2010	FLOW	0.14	0.53	0.3	NL	NULL	*********	NULL	*********	NULL	*********
10-Oct-2010	FLOW	0.08	0.53	0.26	NL	NULL	*********	NULL	*********	NULL	*********

10-Nov-2010	FLOW	0.08	0.53	0.25	NL	NULL	**********	NULL	**********	NULL	**********
10-Dec-2010	FLOW	0.049	0.53	0.122	NL	NULL	**********	NULL	**********	NULL	**********
10-Jan-2011	FLOW	0.03	0.53	0.15	NL	NULL	**********	NULL	**********	NULL	**********
10-Feb-2011	FLOW	0.05	0.53	0.19	NL	NULL	**********	NULL	**********	NULL	**********
10-Mar-2011	FLOW	0.07	0.53	0.124	NL	NULL	**********	NULL	**********	NULL	**********
10-Apr-2011	FLOW	0.09	0.53	0.22	NL	NULL	**********	NULL	**********	NULL	**********
10-May-2011	FLOW	0.067	0.53	0.146	NL	NULL	**********	NULL	**********	NULL	**********
10-Jun-2011	FLOW	0.04	0.53	0.077	NL	NULL	**********	NULL	**********	NULL	**********
10-Jul-2011	FLOW	0.103	0.53	0.213	NL	NULL	**********	NULL	**********	NULL	**********
10-Aug-2011	FLOW	0.086	0.53	0.222	NL	NULL	**********	NULL	**********	NULL	**********
10-Sep-2011	FLOW	0.076	0.53	0.258	NL	NULL	**********	NULL	**********	NULL	**********
10-Oct-2011	FLOW	0.091	0.53	0.216	NL	NULL	**********	NULL	**********	NULL	**********
10-Nov-2011	FLOW	0.069	0.53	0.092	NL	NULL	**********	NULL	**********	NULL	**********
10-Dec-2011	FLOW	0.063	0.53	0.163	NL	NULL	**********	NULL	**********	NULL	**********
10-Jan-2012	FLOW	0.073	0.53	0.131	NL	NULL	**********	NULL	**********	NULL	**********
10-Feb-2012	FLOW	0.06	0.53	0.11	NL	NULL	**********	NULL	**********	NULL	**********
10-Mar-2012	FLOW	0.04	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Apr-2012	FLOW	0.07	0.53	0.13	NL	NULL	**********	NULL	**********	NULL	**********
10-May-2012	FLOW	0.06	0.53	0.14	NL	NULL	**********	NULL	**********	NULL	**********
10-Jun-2012	FLOW	0.04	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Jul-2012	FLOW	0.08	0.53	0.17	NL	NULL	**********	NULL	**********	NULL	**********
10-Aug-2012	FLOW	0.09	0.53	0.26	NL	NULL	**********	NULL	**********	NULL	**********
10-Sep-2012	FLOW	0.04	0.53	0.13	NL	NULL	**********	NULL	**********	NULL	**********
10-Oct-2012	FLOW	0.07	0.53	0.12	NL	NULL	**********	NULL	**********	NULL	**********
10-Nov-2012	FLOW	0.07	0.53	0.23	NL	NULL	**********	NULL	**********	NULL	**********
10-Dec-2012	FLOW	0.05	0.53	0.12	NL	NULL	**********	NULL	**********	NULL	**********
10-Jan-2013	FLOW	0.05	0.53	0.09	NL	NULL	**********	NULL	**********	NULL	**********
10-Feb-2013	FLOW	0.05	0.53	0.14	NL	NULL	**********	NULL	**********	NULL	**********
10-Mar-2013	FLOW	0.04	0.53	0.08	NL	NULL	**********	NULL	**********	NULL	**********
10-Apr-2013	FLOW	0.08	0.53	0.14	NL	NULL	**********	NULL	**********	NULL	**********
10-May-2013	FLOW	0.05	0.53	0.06	NL	NULL	**********	NULL	**********	NULL	**********
10-Jun-2013	FLOW	0.05	0.53	0.06	NL	NULL	**********	NULL	**********	NULL	**********
10-Jul-2013	FLOW	0.06	0.53	0.14	NL	NULL	**********	NULL	**********	NULL	**********
10-Aug-2013	FLOW	0.06	0.53	0.06	NL	NULL	**********	NULL	**********	NULL	**********
10-Sep-2013	FLOW	0.06	0.53	0.08	NL	NULL	**********	NULL	**********	NULL	**********
10-Oct-2013	FLOW	0.06	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Nov-2013	FLOW	0.06	0.53	0.09	NL	NULL	**********	NULL	**********	NULL	**********
10-Dec-2013	FLOW	0.06	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Jan-2014	FLOW	0.06	0.53	0.16	NL	NULL	**********	NULL	**********	NULL	**********
10-Feb-2014	FLOW	0.06	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Mar-2014	FLOW	0.06	0.53	0.07	NL	NULL	**********	NULL	**********	NULL	**********
10-Apr-2014	FLOW	0.06	0.53	0.08	NL	NULL	**********	NULL	**********	NULL	**********
10-May-2014	FLOW	0.17	0.53	0.8	NL	NULL	**********	NULL	**********	NULL	**********

10-Jun-2014	FLOW	0.08	0.53	0.14	NL	NULL	*********	NULL	*********	NULL	*********
10-Jul-2014	FLOW	0.1	0.53	0.16	NL	NULL	*********	NULL	*********	NULL	*********
10-Aug-2014	FLOW	0.06	0.53	0.1	NL	NULL	*********	NULL	*********	NULL	*********
10-Apr-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	22	NL	NULL	*********
10-May-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	<6.45	NL	NULL	*********
10-Jun-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	14.35	NL	NULL	*********
10-Jul-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	32.95	NL	NULL	*********
10-Aug-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	28.02	NL	NULL	*********
10-Sep-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	38.6	NL	NULL	*********
10-Oct-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	23.5	NL	NULL	*********
10-Nov-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	16.1	NL	NULL	*********
10-Dec-2010	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.85	NL	NULL	*********
10-Jan-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.96	NL	NULL	*********
10-Feb-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.01	NL	NULL	*********
10-Mar-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.01	NL	NULL	*********
10-Apr-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.6	NL	NULL	*********
10-May-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.52	NL	NULL	*********
10-Jun-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	5.72	NL	NULL	*********
10-Jul-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	19.94	NL	NULL	*********
10-Aug-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	8.4	NL	NULL	*********
10-Sep-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	18.56	NL	NULL	*********
10-Oct-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.47	NL	NULL	*********
10-Nov-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	11.56	NL	NULL	*********
10-Dec-2011	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	9.76	NL	NULL	*********
10-Jan-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	9.78	NL	NULL	*********
10-Feb-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.1	NL	NULL	*********
10-Mar-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.2	NL	NULL	*********
10-Apr-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	9.8	NL	NULL	*********
10-May-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	9.3	NL	NULL	*********
10-Jun-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	8.3	NL	NULL	*********
10-Jul-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.8	NL	NULL	*********
10-Aug-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.1	NL	NULL	*********
10-Sep-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.2	NL	NULL	*********
10-Oct-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.2	NL	NULL	*********
10-Nov-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.6	NL	NULL	*********
10-Dec-2012	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.9	NL	NULL	*********
10-Jan-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.6	NL	NULL	*********
10-Feb-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	1.8	NL	NULL	*********
10-Mar-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.5	NL	NULL	*********
10-Apr-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	1.6	NL	NULL	*********
10-May-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.3	NL	NULL	*********
10-Jun-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	13.6	NL	NULL	*********
10-Jul-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.7	NL	NULL	*********

10-Aug-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	7.4	NL	NULL	*********
10-Sep-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	5.7	NL	NULL	*********
10-Oct-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	6.3	NL	NULL	*********
10-Nov-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.4	NL	NULL	*********
10-Dec-2013	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.8	NL	NULL	*********
10-Jan-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.4	NL	NULL	*********
10-Feb-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.7	NL	NULL	*********
10-Mar-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	4.2	NL	NULL	*********
10-Apr-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.1	NL	NULL	*********
10-May-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.2	NL	NULL	*********
10-Jun-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	3.2	NL	NULL	*********
10-Jul-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	2.9	NL	NULL	*********
10-Aug-2014	NITRITE+NITRATE-N,TOTAL	NULL	*********	NULL	*********	NULL	*********	19.4	NL	NULL	*********
10-Apr-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	22.46	NL	NULL	*********
10-May-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	7.26	NL	NULL	*********
10-Jun-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	14.35	NL	NULL	*********
10-Jul-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	32.95	NL	NULL	*********
10-Aug-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	28.2	NL	NULL	*********
10-Sep-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	38.6	NL	NULL	*********
10-Oct-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	23.5	NL	NULL	*********
10-Nov-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	16.1	NL	NULL	*********
10-Dec-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	7.8	NL	NULL	*********
10-Jan-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3	NL	NULL	*********
10-Feb-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	5.6	NL	NULL	*********
10-Mar-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	6.2	NL	NULL	*********
10-Apr-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.5	NL	NULL	*********
10-May-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	7.67	NL	NULL	*********
10-Jun-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	5.72	NL	NULL	*********
10-Jul-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	20.39	NL	NULL	*********
10-Aug-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8.55	NL	NULL	*********
10-Sep-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	18.71	NL	NULL	*********
10-Oct-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8.5	NL	NULL	*********
10-Nov-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	11.59	NL	NULL	*********
10-Dec-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	9.81	NL	NULL	*********
10-Jan-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	9.8	NL	NULL	*********
10-Feb-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	6.3	NL	NULL	*********
10-Mar-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8.9	NL	NULL	*********
10-Apr-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	10.3	NL	NULL	*********
10-May-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	<9.4	NL	NULL	*********
10-Jun-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	<8.4	NL	NULL	*********
10-Jul-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	5.5	NL	NULL	*********
10-Aug-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	<4.2	NL	NULL	*********
10-Sep-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	<7.3	NL	NULL	*********

10-Oct-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	<4.4	NL	NULL	*********
10-Nov-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.1	NL	NULL	*********
10-Dec-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.8	NL	NULL	*********
10-Jan-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3.5	NL	NULL	*********
10-Feb-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3.8	NL	NULL	*********
10-Mar-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	5	NL	NULL	*********
10-Apr-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.8	NL	NULL	*********
10-May-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4	NL	NULL	*********
10-Jun-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	14.8	NL	NULL	*********
10-Jul-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8	NL	NULL	*********
10-Aug-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8.3	NL	NULL	*********
10-Sep-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	6.6	NL	NULL	*********
10-Oct-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	8.9	NL	NULL	*********
10-Nov-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4	NL	NULL	*********
10-Dec-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3.7	NL	NULL	*********
10-Jan-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.2	NL	NULL	*********
10-Feb-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4	NL	NULL	*********
10-Mar-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	6.4	NL	NULL	*********
10-Apr-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3.8	NL	NULL	*********
10-May-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.2	NL	NULL	*********
10-Jun-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	4.2	NL	NULL	*********
10-Jul-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	3.6	NL	NULL	*********
10-Aug-2014	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	*********	20.6	NL	NULL	*********
10-Jan-2011	NITROGEN, TOTAL (AS N) (CALENDAR YEAR)	NULL	*********	6471	*16535*	NULL	*********	5314	NL	NULL	*********
10-Jan-2012	NITROGEN, TOTAL (AS N) (CALENDAR YEAR)	NULL	*********	2363	*********	NULL	*********	155.7	NL	NULL	*********
10-Jan-2013	NITROGEN, TOTAL (AS N) (CALENDAR YEAR)	NULL	*********	1023	*********	NULL	*********	0.55	NL	NULL	*********
10-Jan-2014	NITROGEN, TOTAL (AS N) (CALENDAR YEAR)	NULL	*********	NULL	*********	NULL	*********	1186	NL	NULL	*********
10-Apr-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	22.46	NL	NULL	*********
10-May-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.26	NL	NULL	*********
10-Jun-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	14.35	NL	NULL	*********
10-Jul-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	19.26	NL	NULL	*********
10-Aug-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	21.03	NL	NULL	*********
10-Sep-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	24	NL	NULL	*********
10-Oct-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	23.89	NL	NULL	*********
10-Nov-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	22.91	NL	NULL	*********
10-Dec-2010	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	21.238	NL	NULL	*********
10-Jan-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	5314	NL	NULL	*********
10-Feb-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	5.6	NL	NULL	*********
10-Mar-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	23.7	NL	NULL	*********
10-Apr-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	32.2	NL	NULL	*********
10-May-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	47.8	NL	NULL	*********
10-Jun-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	59.39	NL	NULL	*********
10-Jul-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	79.78	NL	NULL	*********

10-Aug-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	88.73	NL	NULL	*********
10-Sep-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	107.44	NL	NULL	*********
10-Oct-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	124.47	NL	NULL	*********
10-Nov-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	136.03	NL	NULL	*********
10-Dec-2011	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	145.79	NL	NULL	*********
10-Jan-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	155.7	NL	NULL	*********
10-Feb-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.7	NL	NULL	*********
10-Mar-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.9	NL	NULL	*********
10-Apr-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.9	NL	NULL	*********
10-May-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	8.3	NL	NULL	*********
10-Jun-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	8.5	NL	NULL	*********
10-Jul-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	8.2	NL	NULL	*********
10-Aug-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.8	NL	NULL	*********
10-Sep-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.5	NL	NULL	*********
10-Oct-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.3	NL	NULL	*********
10-Nov-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7	NL	NULL	*********
10-Dec-2012	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.8	NL	NULL	*********
10-Jan-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.5	NL	NULL	*********
10-Feb-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4	NL	NULL	*********
10-Mar-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	3.8	NL	NULL	*********
10-Apr-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.5	NL	NULL	*********
10-May-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.3	NL	NULL	*********
10-Jun-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6	NL	NULL	*********
10-Jul-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.5	NL	NULL	*********
10-Aug-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.7	NL	NULL	*********
10-Sep-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.8	NL	NULL	*********
10-Oct-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7	NL	NULL	*********
10-Nov-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.7	NL	NULL	*********
10-Dec-2013	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.4	NL	NULL	*********
10-Jan-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.2	NL	NULL	*********
10-Feb-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4	NL	NULL	*********
10-Mar-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	5.2	NL	NULL	*********
10-Apr-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.7	NL	NULL	*********
10-May-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.6	NL	NULL	*********
10-Jun-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.5	NL	NULL	*********
10-Jul-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.4	NL	NULL	*********
10-Aug-2014	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	7.6	NL	NULL	*********
10-Apr-2010	pH	NULL	*********	NULL	*********	7.5	6	NULL	*********	8.05	9
10-May-2010	pH	NULL	*********	NULL	*********	7.29	6	NULL	*********	8.05	9
10-Jun-2010	pH	NULL	*********	NULL	*********	6.74	6	NULL	*********	8.12	9
10-Jul-2010	pH	NULL	*********	NULL	*********	7.43	6	NULL	*********	8.26	9
10-Aug-2010	pH	NULL	*********	NULL	*********	6.4	6	NULL	*********	8.5	9
10-Sep-2010	pH	NULL	*********	NULL	*********	7	6	NULL	*********	8.2	9

10-Oct-2010	pH	NULL	**********	NULL	**********	6.25	6	NULL	**********	7.4	9
10-Nov-2010	pH	NULL	**********	NULL	**********	6.5	6	NULL	**********	7.8	9
10-Dec-2010	pH	NULL	**********	NULL	**********	7.17	6	NULL	**********	8.3	9
10-Jan-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	8.6	9
10-Feb-2011	pH	NULL	**********	NULL	**********	6.6	6	NULL	**********	7.5	9
10-Mar-2011	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.8	9
10-Apr-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.9	9
10-May-2011	pH	NULL	**********	NULL	**********	6.7	6	NULL	**********	7.3	9
10-Jun-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Jul-2011	pH	NULL	**********	NULL	**********	6.4	6	NULL	**********	7.4	9
10-Aug-2011	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.5	9
10-Sep-2011	pH	NULL	**********	NULL	**********	6.7	6	NULL	**********	7.5	9
10-Oct-2011	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.3	9
10-Nov-2011	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.4	9
10-Dec-2011	pH	NULL	**********	NULL	**********	6.7	6	NULL	**********	7.2	9
10-Jan-2012	pH	NULL	**********	NULL	**********	6.91	6	NULL	**********	7.23	9
10-Feb-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.4	9
10-Mar-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.6	9
10-Apr-2012	pH	NULL	**********	NULL	**********	6.8	6	NULL	**********	7.2	9
10-May-2012	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.3	9
10-Jun-2012	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.3	9
10-Jul-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.3	9
10-Aug-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.5	9
10-Sep-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.4	9
10-Oct-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.3	9
10-Nov-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Dec-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Jan-2013	pH	NULL	**********	NULL	**********	7.02	6	NULL	**********	7.7	9
10-Feb-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Mar-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Apr-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-May-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.5	9
10-Jun-2013	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.4	9
10-Jul-2013	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.4	9
10-Aug-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Sep-2013	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.2	9
10-Oct-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.3	9
10-Nov-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.2	9
10-Dec-2013	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.2	9
10-Jan-2014	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.1	9
10-Feb-2014	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.2	9
10-Mar-2014	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.1	9
10-Apr-2014	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.2	9

10-May-2014	pH	NULL	*********	NULL	*********	7	6	NULL	*********	7.2	9
10-Jun-2014	pH	NULL	*********	NULL	*********	6.9	6	NULL	*********	7.2	9
10-Jul-2014	pH	NULL	*********	NULL	*********	6.1	6	NULL	*********	7.1	9
10-Aug-2014	pH	NULL	*********	NULL	*********	6.5	6	NULL	*********	7.5	9
								10th	6.8	90th	7.8
10-Apr-2010	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.1	2	NULL	*********
10-May-2010	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	1.6	2	NULL	*********
10-Jun-2010	PHOSPHORUS, TOTAL (AS P)	0.53	8.8	NULL	*********	NULL	*********	0.26	2	NULL	*********
10-Jul-2010	PHOSPHORUS, TOTAL (AS P)	0.13	8.8	NULL	*********	NULL	*********	0.185	2	NULL	*********
10-Aug-2010	PHOSPHORUS, TOTAL (AS P)	0.09	8.8	NULL	*********	NULL	*********	0.14	2	NULL	*********
10-Sep-2010	PHOSPHORUS, TOTAL (AS P)	1.7	8.8	NULL	*********	NULL	*********	1.2	2	NULL	*********
10-Oct-2010	PHOSPHORUS, TOTAL (AS P)	0.5	8.8	NULL	*********	NULL	*********	1.3	2	NULL	*********
10-Nov-2010	PHOSPHORUS, TOTAL (AS P)	0.7	8.8	NULL	*********	NULL	*********	1	2	NULL	*********
10-Dec-2010	PHOSPHORUS, TOTAL (AS P)	0.4	8.8	NULL	*********	NULL	*********	0.7	2	NULL	*********
10-Jan-2011	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Feb-2011	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Mar-2011	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.2	2	NULL	*********
10-Apr-2011	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.2	2	NULL	*********
10-May-2011	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.2	2	NULL	*********
10-Jun-2011	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.3	2	NULL	*********
10-Jul-2011	PHOSPHORUS, TOTAL (AS P)	1.2	8.8	NULL	*********	NULL	*********	1.39	2	NULL	*********
10-Aug-2011	PHOSPHORUS, TOTAL (AS P)	0.7	8.8	NULL	*********	NULL	*********	0.95	2	NULL	*********
10-Sep-2011	PHOSPHORUS, TOTAL (AS P)	1.1	8.8	NULL	*********	NULL	*********	1.8	2	NULL	*********
10-Oct-2011	PHOSPHORUS, TOTAL (AS P)	1.1	8.8	NULL	*********	NULL	*********	1.4	2	NULL	*********
10-Nov-2011	PHOSPHORUS, TOTAL (AS P)	0.6	8.8	NULL	*********	NULL	*********	0.99	2	NULL	*********
10-Dec-2011	PHOSPHORUS, TOTAL (AS P)	0.4	8.8	NULL	*********	NULL	*********	0.7	2	NULL	*********
10-Jan-2012	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Feb-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.1	2	NULL	*********
10-Mar-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Apr-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-May-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.3	2	NULL	*********
10-Jun-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.6	2	NULL	*********
10-Jul-2012	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Aug-2012	PHOSPHORUS, TOTAL (AS P)	0.5	8.8	NULL	*********	NULL	*********	0.6	2	NULL	*********
10-Sep-2012	PHOSPHORUS, TOTAL (AS P)	0.5	8.8	NULL	*********	NULL	*********	1.4	2	NULL	*********
10-Oct-2012	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Nov-2012	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Dec-2012	PHOSPHORUS, TOTAL (AS P)	0.1	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Jan-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Feb-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Mar-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Apr-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.2	2	NULL	*********

10-May-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Jun-2013	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Jul-2013	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.8	2	NULL	*********
10-Aug-2013	PHOSPHORUS, TOTAL (AS P)	0.4	8.8	NULL	*********	NULL	*********	0.8	2	NULL	*********
10-Sep-2013	PHOSPHORUS, TOTAL (AS P)	0.5	8.8	NULL	*********	NULL	*********	1.1	2	NULL	*********
10-Oct-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Nov-2013	PHOSPHORUS, TOTAL (AS P)	0.8	8.8	NULL	*********	NULL	*********	1.6	2	NULL	*********
10-Dec-2013	PHOSPHORUS, TOTAL (AS P)	0.2	8.8	NULL	*********	NULL	*********	0.4	2	NULL	*********
10-Jan-2014	PHOSPHORUS, TOTAL (AS P)	0.5	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Feb-2014	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.5	2	NULL	*********
10-Mar-2014	PHOSPHORUS, TOTAL (AS P)	0.4	8.8	NULL	*********	NULL	*********	0.8	2	NULL	*********
10-Apr-2014	PHOSPHORUS, TOTAL (AS P)	0.3	8.8	NULL	*********	NULL	*********	0.6	2	NULL	*********
10-May-2014	PHOSPHORUS, TOTAL (AS P)	0.6	8.8	NULL	*********	NULL	*********	0.8	2	NULL	*********
10-Jun-2014	PHOSPHORUS, TOTAL (AS P)	NULL	8.8	NULL	*********	NULL	*********	0.7	2	NULL	*********
10-Jul-2014	PHOSPHORUS, TOTAL (AS P)	0.6	8.8	NULL	*********	NULL	*********	0.6	2	NULL	*********
10-Aug-2014	PHOSPHORUS, TOTAL (AS P)	0.9	8.8	NULL	*********	NULL	*********	2.2	2	NULL	*********
10-Jan-2011	PHOSPHORUS, TOTAL (AS P) (CALENDAR YEAR)	NULL	*********	168.5	2072	NULL	*********	138	NL	NULL	*********
10-Jan-2012	PHOSPHORUS, TOTAL (AS P) (CALENDAR YEAR)	NULL	*********	164	*********	NULL	*********	11.49	NL	NULL	*********
10-Jan-2013	PHOSPHORUS, TOTAL (AS P) (CALENDAR YEAR)	NULL	*********	80	*********	NULL	*********	0.04	NL	NULL	*********
10-Jan-2014	PHOSPHORUS, TOTAL (AS P) (CALENDAR YEAR)	NULL	*********	NULL	*********	NULL	*********	120	NL	NULL	*********
10-Apr-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.1	NL	NULL	*********
10-May-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	1.6	NL	NULL	*********
10-Jun-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.26	NL	NULL	*********
10-Jul-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.147	NL	NULL	*********
10-Aug-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.16	NL	NULL	*********
10-Sep-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.3	NL	NULL	*********
10-Oct-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.47	NL	NULL	*********
10-Nov-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.53	NL	NULL	*********
10-Dec-2010	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5496	NL	NULL	*********
10-Jan-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	138	NL	NULL	*********
10-Feb-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Mar-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	1.3	NL	NULL	*********
10-Apr-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	1.7	NL	NULL	*********
10-May-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	2.1	NL	NULL	*********
10-Jun-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	2.7	NL	NULL	*********
10-Jul-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	4.1	NL	NULL	*********
10-Aug-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	5	NL	NULL	*********
10-Sep-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	6.8	NL	NULL	*********
10-Oct-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	9.4	NL	NULL	*********
10-Nov-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	10.39	NL	NULL	*********
10-Dec-2011	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	11.09	NL	NULL	*********
10-Jan-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	11.49	NL	NULL	*********
10-Feb-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.1	NL	NULL	*********

10-Mar-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.2	NL	NULL	*********
10-Apr-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.3	NL	NULL	*********
10-May-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Jun-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Jul-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Aug-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Sep-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Oct-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.6	NL	NULL	*********
10-Nov-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.6	NL	NULL	*********
10-Dec-2012	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Jan-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Feb-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Mar-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.3	NL	NULL	*********
10-Apr-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-May-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Jun-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.4	NL	NULL	*********
10-Jul-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Aug-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Sep-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.6	NL	NULL	*********
10-Oct-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.6	NL	NULL	*********
10-Nov-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Dec-2013	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Jan-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.6	NL	NULL	*********
10-Feb-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.5	NL	NULL	*********
10-Mar-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Apr-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-May-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Jun-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Jul-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	0.7	NL	NULL	*********
10-Aug-2014	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)	NULL	*********	NULL	*********	NULL	*********	1.2	NL	NULL	*********
10-Apr-2010	TKN (N-KJEL)	0.27	13	0.53	20	NULL	*********	0.39	3	0.53	4.5
10-May-2010	TKN (N-KJEL)	1.6	13	1.9	20	NULL	*********	0.78	3	0.88	4.5
10-Jun-2010	TKN (N-KJEL)	1.6	13	2.72	20	NULL	*********	0.91	3	1.37	4.5
10-Jul-2010	TKN (N-KJEL)	0.228	13	0.779	20	NULL	*********	0.28	3	0.63	4.5
10-Aug-2010	TKN (N-KJEL)	0.54	13	1.44	20	NULL	*********	0.69	3	1.77	4.5
10-Sep-2010	TKN (N-KJEL)	1	13	4	20	NULL	*********	1.1	3	3.2	4.5
10-Oct-2010	TKN (N-KJEL)	1	13	2	20	NULL	*********	1.5	3	3.8	4.5
10-Nov-2010	TKN (N-KJEL)	1	13	1	20	NULL	*********	1.2	3	2	4.5
10-Dec-2010	TKN (N-KJEL)	0.4	13	2.2	20	NULL	*********	1.2	3	2.2	4.5
10-Jan-2011	TKN (N-KJEL)	0.3	13	1.9	20	NULL	*********	1.2	3	1.5	4.5
10-Feb-2011	TKN (N-KJEL)	0.8	13	3.8	20	NULL	*********	1.8	3	2.4	4.5
10-Mar-2011	TKN (N-KJEL)	0.2	13	0.8	20	NULL	*********	0.4	3	0.8	4.5
10-Apr-2011	TKN (N-KJEL)	1.1	13	3.9	20	NULL	*********	1.4	3	2.1	4.5

10-May-2011	TKN (N-KJEL)	0.2	13	1.1	20	NULL	**********	0.4	3	0.9	4.5
10-Jun-2011	TKN (N-KJEL)	0.03	13	0.1	20	NULL	**********	0.1	3	0.2	4.5
10-Jul-2011	TKN (N-KJEL)	0.2	13	0.5	20	NULL	**********	0.2	3	0.3	4.5
10-Aug-2011	TKN (N-KJEL)	0.04	13	0.19	20	NULL	**********	0.05	3	0.1	4.5
10-Sep-2011	TKN (N-KJEL)	<QL	13	1.3	20	NULL	**********	<QL	3	0.6	4.5
10-Oct-2011	TKN (N-KJEL)	0.5	13	1.6	20	NULL	**********	0.7	3	0.9	4.5
10-Nov-2011	TKN (N-KJEL)	0.1	13	0.33	20	NULL	**********	0.17	3	0.43	4.5
10-Dec-2011	TKN (N-KJEL)	0.1	13	1.4	20	NULL	**********	0.2	3	1	4.5
10-Jan-2012	TKN (N-KJEL)	0.1	13	0.5	20	NULL	**********	0.2	3	0.5	4.5
10-Feb-2012	TKN (N-KJEL)	0.8	13	2.1	20	NULL	**********	1.7	3	2.4	4.5
10-Mar-2012	TKN (N-KJEL)	0.6	13	1.9	20	NULL	**********	1.9	3	3.3	4.5
10-Apr-2012	TKN (N-KJEL)	0.3	13	1.8	20	NULL	**********	<QL	3	1	4.5
10-May-2012	TKN (N-KJEL)	0.2	13	0.9	20	NULL	**********	<QL	3	0.7	4.5
10-Jun-2012	TKN (N-KJEL)	0.1	13	0.3	20	NULL	**********	<QL	3	<QL	4.5
10-Jul-2012	TKN (N-KJEL)	0.3	13	0.8	20	NULL	**********	<QL	3	0.6	4.5
10-Aug-2012	TKN (N-KJEL)	0.4	13	2.1	20	NULL	**********	<QL	3	0.9	4.5
10-Sep-2012	TKN (N-KJEL)	0.3	13	1.3	20	NULL	**********	0.6	3	0.8	4.5
10-Oct-2012	TKN (N-KJEL)	0.2	13	0.4	20	NULL	**********	<QL	3	0.5	4.5
10-Nov-2012	TKN (N-KJEL)	0.5	13	2	20	NULL	**********	0.6	3	0.7	4.5
10-Dec-2012	TKN (N-KJEL)	0.6	13	1.1	20	NULL	**********	1.7	3	2.1	4.5
10-Jan-2013	TKN (N-KJEL)	0.5	13	1.3	20	NULL	**********	1.2	3	1.8	4.5
10-Feb-2013	TKN (N-KJEL)	0.7	13	1.9	20	NULL	**********	1.6	3	1.8	4.5
10-Mar-2013	TKN (N-KJEL)	0.6	13	1	20	NULL	**********	1.7	3	2.1	4.5
10-Apr-2013	TKN (N-KJEL)	1.8	13	5	20	NULL	**********	2.7	3	3.3	4.5
10-May-2013	TKN (N-KJEL)	1	13	2	20	NULL	**********	2.1	3	3	4.5
10-Jun-2013	TKN (N-KJEL)	0.6	13	1	20	NULL	**********	1.2	3	1.5	4.5
10-Jul-2013	TKN (N-KJEL)	1	13	2.5	20	NULL	**********	2	3	3.1	4.5
10-Aug-2013	TKN (N-KJEL)	0.6	13	1.8	20	NULL	**********	1.3	3	1.1	4.5
10-Sep-2013	TKN (N-KJEL)	0.6	13	1.3	20	NULL	**********	1.1	3	1.3	4.5
10-Oct-2013	TKN (N-KJEL)	0.6	13	1.5	20	NULL	**********	1.1	3	1.6	4.5
10-Nov-2013	TKN (N-KJEL)	0.7	13	1.7	20	NULL	**********	1.6	3	2.6	4.5
10-Dec-2013	TKN (N-KJEL)	0.6	13	1.3	20	NULL	**********	1.3	3	2.2	4.5
10-Jan-2014	TKN (N-KJEL)	0.5	13	0.8	20	NULL	**********	1.1	3	1.5	4.5
10-Feb-2014	TKN (N-KJEL)	0.3	13	0.7	20	NULL	**********	0.7	3	0.8	4.5
10-Mar-2014	TKN (N-KJEL)	0.9	13	2	20	NULL	**********	1.9	3	3	4.5
10-Apr-2014	TKN (N-KJEL)	0.8	13	1.4	20	NULL	**********	1.5	3	1.9	4.5
10-May-2014	TKN (N-KJEL)	0.7	13	1.7	20	NULL	**********	1.1	3	1.2	4.5
10-Jun-2014	TKN (N-KJEL)	1	13	2.7	20	NULL	**********	1.5	3	2.5	4.5
10-Jul-2014	TKN (N-KJEL)	1.3	13	3	20	NULL	**********	1.6	3	2.2	4.5
10-Aug-2014	TKN (N-KJEL)	0.5	13	1.2	20	NULL	**********	1.2	3	1.2	4.5
10-Apr-2010	TSS	0.33	20	0.79	30	NULL	**********	0.9	10	1.8	15
10-May-2010	TSS	3.7	20	6.7	30	NULL	**********	4.7	10	5.5	15
10-Jun-2010	TSS	2.47	20	5.61	30	NULL	**********	3.1	10	7.1	15

10-Jul-2010	TSS	0.266	20	0.801	30	NULL	**********	0.59	10	1.7	15
10-Aug-2010	TSS	0.8	20	1.3	30	NULL	**********	2.2	10	3.73	15
10-Sep-2010	TSS	2	20	3	30	NULL	**********	4	10	6	15
10-Oct-2010	TSS	2	20	6	30	NULL	**********	8	10	13	15
10-Nov-2010	TSS	2	20	2	30	NULL	**********	6	10	9	15
10-Dec-2010	TSS	0.9	20	6.47	30	NULL	**********	5.1	10	14	15
10-Jan-2011	TSS	0.9	20	7	30	NULL	**********	8	10	12	15
10-Feb-2011	TSS	1.3	20	7.2	30	NULL	**********	7	10	10.3	15
10-Mar-2011	TSS	0.6	20	1.6	30	NULL	**********	2.2	10	3.4	15
10-Apr-2011	TSS	1.1	20	3	30	NULL	**********	3.3	10	3.7	15
10-May-2011	TSS	0.5	20	1.5	30	NULL	**********	1.8	10	2.7	15
10-Jun-2011	TSS	0.8	20	2.3	30	NULL	**********	5	10	8	15
10-Jul-2011	TSS	1.2	20	7.4	30	NULL	**********	3	10	9.1	15
10-Aug-2011	TSS	1.1	20	4.6	30	NULL	**********	3.3	10	5.5	15
10-Sep-2011	TSS	0.4	20	1.9	30	NULL	**********	1.5	10	1.9	15
10-Oct-2011	TSS	1.9	20	5.5	30	NULL	**********	5.5	10	6.7	15
10-Nov-2011	TSS	0.9	20	2	30	NULL	**********	3.4	10	5.8	15
10-Dec-2011	TSS	1	20	4.5	30	NULL	**********	4.4	10	7.3	15
10-Jan-2012	TSS	1.5	20	6.7	30	NULL	**********	5.6	10	13.6	15
10-Feb-2012	TSS	0.7	20	2.5	30	NULL	**********	3.7	10	7.8	15
10-Mar-2012	TSS	0.4	20	1.1	30	NULL	**********	3	10	3.9	15
10-Apr-2012	TSS	1.6	20	6.3	30	NULL	**********	5.6	10	8.7	15
10-May-2012	TSS	1.8	20	5.4	30	NULL	**********	7.5	10	14.2	15
10-Jun-2012	TSS	1	20	3.5	30	NULL	**********	6.5	10	13.2	15
10-Jul-2012	TSS	0.9	20	2.1	30	NULL	**********	3.2	10	5.6	15
10-Aug-2012	TSS	1.8	20	10.1	30	NULL	**********	4	10	9.8	15
10-Sep-2012	TSS	1.3	20	4.5	30	NULL	**********	6.3	10	11.8	15
10-Oct-2012	TSS	0.6	20	1.4	30	NULL	**********	2.5	10	3.4	15
10-Nov-2012	TSS	0.4	20	1	30	NULL	**********	1.6	10	2.2	15
10-Dec-2012	TSS	0.3	20	0.6	30	NULL	**********	1.6	10	1.7	15
10-Jan-2013	TSS	0.4	20	2	30	NULL	**********	1.7	10	3.6	15
10-Feb-2013	TSS	0.2	20	1	30	NULL	**********	1.3	10	2	15
10-Mar-2013	TSS	0.2	20	0.6	30	NULL	**********	1.5	10	2.6	15
10-Apr-2013	TSS	0.5	20	1.2	30	NULL	**********	1.6	10	2.4	15
10-May-2013	TSS	0.3	20	1.7	30	NULL	**********	1.6	10	3.4	15
10-Jun-2013	TSS	0.3	20	1.1	30	NULL	**********	1.3	10	2.6	15
10-Jul-2013	TSS	0.3	20	1	30	NULL	**********	0.6	10	1.6	15
10-Aug-2013	TSS	0.3	20	2	30	NULL	**********	1.4	10	1.2	15
10-Sep-2013	TSS	0.5	20	1.4	30	NULL	**********	2.1	10	3.2	15
10-Oct-2013	TSS	0.3	20	0.8	30	NULL	**********	1.5	10	1.5	15
10-Nov-2013	TSS	0.2	20	0.8	30	NULL	**********	1.1	10	2	15
10-Dec-2013	TSS	0.3	20	0.6	30	NULL	**********	1.4	10	2.1	15
10-Jan-2014	TSS	0.7	20	1.3	30	NULL	**********	3	10	3.6	15

10-Feb-2014	TSS	0.3	*20*	0.7	*30*	NULL	*********	1.6	*10*	2.3	*15*
10-Mar-2014	TSS	1	*20*	2.5	*30*	NULL	*********	4.8	*10*	8.8	*15*
10-Apr-2014	TSS	0.9	*20*	2.1	*30*	NULL	*********	4.2	*10*	5.1	*15*
10-May-2014	TSS	0.8	*20*	1.8	*30*	NULL	*********	2.7	*10*	3.8	*15*
10-Jun-2014	TSS	0.7	*20*	1.5	*30*	NULL	*********	2.5	*10*	3.3	*15*
10-Jul-2014	TSS	1.1	*20*	2.7	*30*	NULL	*********	2.9	*10*	4.8	*15*
10-Aug-2014	TSS	0.9	*20*	3	*30*	NULL	*********	3.8	*10*	7.1	*15*

ATTACHMENT 8

Ammonia Limitation Derivation

8/28/2014 3:38:20 PM

Facility = Fort AP Hill - Wilcox Camp
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 12.1
WLAc = 1.62
Q.L. = 0.1
# samples/mo. = 12
# samples/wk. = 3

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 3.26862555133442
Average Weekly limit = 2.39081556692656
Average Monthly LImit = 1.78084510670374

The data are:

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ATTACHMENT 9

Public Notice

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Caroline County, Virginia.

PUBLIC COMMENT PERIOD: November 14, 2014 to December 15, 2014

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: American Water Operations & Maintenance, Inc.
1025 Laurel Oak Road, Voorhees, NJ 08043
VA0032034

NAME AND ADDRESS OF FACILITY: Fort A.P. Hill Wilcox Camp Wastewater Treatment Plant
21132 Peuman Road, Bowling Green, VA 22427

This facility is an Extraordinary Environmental Enterprise participant in Virginia's Environmental Excellence Program.

PROJECT DESCRIPTION: American Water Operations & Maintenance, Inc. has applied for a reissuance of a permit for the private Fort A.P. Hill Wilcox Camp Wastewater Treatment Plant. The applicant proposes to release treated sewage wastewaters from training camps, office operations and regional jail at a rate of 0.53 million gallons per day into a water body. Sludge from the treatment process will either by disposed via landfill or land applied by a contractor. The facility proposes to release the treated sewage in the Mill Creek, UT in Caroline County in the Rappahannock River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, carbonaceous-biochemical oxygen demand-5 day, total suspended solids, dissolved oxygen, total Kjeldahl nitrogen, *E. coli* and total phosphorus. Facility will also monitor and report flow, nitrate+nitrite and total nitrogen.

This facility is subject to the requirements of 9VAC25-820 and has registered for coverage under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821